My name is John Silas Cranfield, I am a full-time music recording engineer/mixer and producer working in Los Angeles. I started my career in music 8 years ago and have seen, first hand, the horrible effect that Internet piracy has had on my industry. For the past 8 months or so I have been actively researching and developing a plan to combat this current epidemic of rampant theft.

I believe I have isolated a very key oversight in the modern perception of digital media piracy issues. I have put together a very detailed document outlining this fundamental flaw called 'Illegal Downloading Flaw'. I have also written a document called 'Digital Media Copyright Protection and Authorization Plan' which explains my ideas on how to build a system that balances net neutrality and also allows for a fair and legal online distribution infrastructure for all copyrighted digital media.

Sincerely,
John Silas Cranfield
818-261-6489

P.S. I am currently in contact with the following people regarding this proposal:

- Jeremy Banks (Head of Anti-piracy @ IFPI)
- David Hughes (VP of Technology @ RIAA)
- Jim Schremmp (Audible Magic)
- Abe Laboriel Jr. (Musical Director/Drummer for Paul McCartney)
- Greig McRitchie (Head of Post Production @ Universal Pictures)
- Daniel Mandil (Head of Anti-piracy @ MPAA)
- Jaron Lanier (Computer Scientist/Author)

I am also trying to reach Victoria Espinel (IPEC) in Washington D.C.

1. Digital Media Copyright Protection & Authorization Plan

By John Silas Cranfield

SUMMARY

- Restore and Protect the rights of all entertainment professionals.
- Secure the Digital Entertainment Marketplace by Strictly Regulating ALL Operating Systems and Digital Media Players.
- Regulate Playback, Distribution, Duplication and Exploitation of ALL copyrighted media files.

This document is meant to outline an alternative way to combat Internet piracy or â€œillegal downloadingâ€ with a system that would preserve net neutrality while allowing for a fair and legal

online distribution infrastructure for all copyrighted digital media. The rapid advancement of computers and Internet technology has given great power to billions of people, and fueled the creation of countless pieces of amazing software. So far this power has been knowingly misused by consumers to the detriment of not only the recording and movie industries of the world, but has also contributed, in some way, to the current economic crisis. Free music and movies have become a very lucrative commodity for computer manufacturers and an added bonus for the consumers/users that choose to exploit the current weakness in the Internet/personal-computer infrastructure.

The true enemies of the creators and sellers of contemporary music, movies, and other digital media are iTunes Media Player, Windows Media player, and Quick Time Media Player as well as Mac, Windows and Linux Operating Systems. These programs and others like them afford anyone with a computer and an Internet connection the power of unlimited and unauthorized reproduction, duplication, and distribution of copyrighted digital media files. The current plight of the recording and movie industries does not lie with the issue of â€œillegal downloadingâ€ per se; the real problem is UNAUTHORIZED REPRODUCTION. Downloading files onto a computer from Limewire, or any of the widely known Bit Torrent sites, is a relatively harmless act; it is simply a transfer of binary digits from one storage-medium to another, not unlike â€œbufferingâ€. It can be argued that downloading data from the Internet does not even violate copyright law (see â€˜Illegal Downloading Flawâ€™ document).

Which constitutes a reproduction, in the true sense of the word, more than the other, (A) the copying of 1â€™s and 0â€™s to your hard drive from the Internet (downloading, which does not include the automatic processing of this data by the operating system which makes it visible to the user), Or (B) Opening a digital audio file in iTunes, pressing play, and hearing actual sound? Right now all the focus is on regulating the acquisition or downloading of data, 1â€™s and 0â€™s transferred from one hard disc to another, not on controlling and regulating â€œtrueâ€ reproduction (media players and duplication software). Controlling and regulating the operating systems, media players and duplication software that are responsible for true reproduction is the only way to ensure the protection of copyrighted digital media files.

True â€œreproductionâ€, in the words of copyright law, does not occur until (1) the operating system converts the raw binary data into a visual â€œfileâ€ and (2) a digital media player (audible reproduction) and/or CD burning software (physical duplication) is implemented. Where or how the user gets the data needed for eventual reproduction is unimportant. These operating systems and media players have essentially given away every song, movie, and book ever made, for free, forever. No matter how much you try and regulate the ISPs (binary data transfer), the cat is out of the bag, right?! Wrongâ€¦all the technology needed to put an end to this has already been created. Not only can the problem be stopped, but all those files that have been â€œstolenâ€ could eventually be recovered and the artists and producers responsible for them can be retroactively compensated.

DESCRIPTION

(The remainder of this document focuses primarily on digital audio files, but the basic principles outlined can be applied to all other digital media)

When you purchase an album from iTunes, what are they really selling you? Are they selling you the â€œexclusive right to reproduce a copyrighted workâ€? No, they are only selling you the opportunity to download the data needed to reproduce the file on to your local hard disc, â€œlegallyâ€. They cannot sell you the â€œexclusive right to reproduceâ€ the works because theyâ€™ve chosen not to protect the copyright owners, even though the technology to do so exists. The question of legality of digital media needs to be focused more on the point of â€œtrue reproductionâ€, which only exists in operating systems, media players and duplication software.

One of the most revolutionary and exciting new Internet technologies is a system of waveform recognition that is just now being incorporated into YouTube by a company called Audible Magic. Audible Magic has made it possible for copyright holders to regulate the unauthorized use of there music by YouTube users. When a file is uploaded, Audible Magic scans the file for unauthorized audio content. When unauthorized audio content is detected, Audible Magicâ€™s software deactivates the audio and the video is played back without any sound.

A similar system exists in a free iPhone App called Shazam. â€œShazamâ€ records an audio sample of a song that is playing (in a bar or supermarket for example) and automatically, within seconds, compares this sample with all known or â€œpublishedâ€ sound recordings available in the online music marketplace. Each audio file has a uniquely identifiable waveform or â€œfingerprintâ€. After this scanning process, the software tells you what the song is called, who the artist is, and where it is currently available to be purchased online. This waveform recognition technology will be the basis of a new system that will solve most, if not all of the piracy problems facing the recording and movie industries of today.

What is needed is an international â€œCentral Online Media Databaseâ€ (like Audible Magic) that tracks and archives every single digital media file (DMF) purchase. All operating systems and digital media players must be reprogrammed and updated with strict authorization limitations and security features based on Fair Use. When data is initially downloaded and displayed as a file within the operating system, a checkpoint must be setup to establish whether or not the user has authorization to reproduce/exploit the file (DMF). This initial checkpoint would cover the first step of â€œunauthorized (visual) reproductionâ€ of a copyrighted digital media file by the operating system. Copyright holders have the right to know where and how their works are being exploited, and to what extent. This could be possible with the integration of an expanded waveform recognition system, like

the one Audible Magic has created, into all operating systems, digital media players, and duplication software.

The second step of â€œunauthorized (audible/physical) reproductionâ€ by digital media players and duplication softwares could be handled in the following way. Before the release of an album, the artist would register their works with the â€˜Digital Media Copyright Protection Databaseâ€™. After being released these works will eventually be â€œleakedâ€. If a user downloads these file â€œillegallyâ€ and does not have the corresponding authorization codes, the files with not be displayed by the operating system and subsequently be unavailable for reproduction by a media player or CD burning software. This process could be repeated for every digital media release including movies and books. Eventually after the system is up and running smoothly the process could shift towards being retroactive. Albums and other media that were not previously protected could be registered with the database and eventually each digital media file could be appropriately compensated and accounted for.

After all digital media has been registered with the database and the retroactive process has begun it could go something like thisâ€¦Imagine one day, after a routine update of your iTunes software, you open up iTunes, but instead of automatically opening as usual, you are asked to input your iTunes login information. Having a unique user ID/account linked to the consumerâ€™s DMF library and authorization codes is critical. After which, your library is automatically scanned (â€œAudible Magicâ€ â€œShazamâ€ style waveform recognition) and you are informed that you currently have 1278 songs and 24 movies files in your iTunes library that are in potential violation of Digital Media Copyright Protection Law. These unauthorized files will receive a â€œred-lightâ€ status. All previously purchased â€œlegalâ€ files will receive a Digital Media Authorization Code (DMAC), a â€œgreen-lightâ€ status and will be cleared for reproduction within the guidelines of Fair Use.

What has just happened is iTunes has compared all the unique â€œfingerprintsâ€ of your digital media files against all published DMFs in the â€œCentral Online Media Databaseâ€ and has separated your authorized/purchased files from your unauthorized/illegal files. Once this initial scanning and authorization/de-authorization process has occurred, all your account information will be saved and updated in iTunes as well as in your newly created online account (â€œMyTunes.comâ€, just an idea). The amount of copies issued, duplication capabilities, and duration of â€œauthorized reproductionâ€ will be at the discretion of the artist and/or label. This system would operate much like the authorization process currently in place by the â€œWavesâ€, â€œDigidesignâ€ and â€œCelemonyâ€ software companies. These companies require authorization codes to be constantly present during the use of their software. This relatively new system has essentially made it impossible for consumers to use pirated versions of their software.

Once a Digital Media Protection System is in place all â€œOldâ€ DMFs (digital archives of

previously purchased CDs) or previously downloaded â€œFile Share Mediaâ€ will eventually become potential sales. These â€œOldâ€ files will simply be â€œred-lightedâ€ or deactivated, since there is no record of purchase, and will no longer be available for reproduction. At any point the user will be able to select a red-lighted (unauthorized) file, and be automatically directed to iTunes/LaLa/Rhapsody/Napster, or any other approved or â€œlegalâ€ online music store to purchase the corresponding authorization codes (DMACs) for those files. Once the user has obtained the DMACs for this previously downloaded media, those files will be "green lighted" instantly and be available for reproduction without the need of repeat downloading, although the option to download "fresh files" will be available.

All approved online music stores will integrate a universal authorization code system, and contribute all future and past records of purchased digital media files to the â€œCentral Online Media Databaseâ€. These records of purchase will be linked to the unique fingerprint of the purchased DMF. All new versions of iTunes and Windows Media Player etc., under penalty of strict new Digital Media Copyright Protection Laws, will be updated with this Digital Media Copyright Protection And Authorization System. Eventually after time and planned obsolescence has done it's job, all (operational) computers will have implemented this system through mandatory software updates (iTunes already does this), and this current trend of rampant unchecked copyright infringement, due to unregulated and unauthorized reproduction of copyrighted digital media files, will be a thing of the past. In the future a consumerâ€™s entire music library will be able to be stored on one very small and portable device, accessible anywhere at anytime through the integration of â€œthumb driveâ€ technology and mobile access to â€œDigital Media Authorization Codesâ€, very close to the way mobile online banking works.

In regard to working professionals in the field of audio and movie production, â€œin-productionâ€ files will not be affected by this system. Upon importing â€œin-productionâ€ files will be scanned, just like all other files, and compared with all published DMF fingerprints currently available on the market, when they are cleared and approved as being unique and â€œunpublishedâ€ works under production by the artist and/or label, they will be authorized for reproduction without limitation (playback and duplication, i.e. CDs/DVDs). Upon the date of these previously â€œin-productionâ€ files being published, the â€œlegalâ€ digital media player will inform the professional that the files have been published and are now available for purchase. If the artist/label wishes to provide any consumer with an authorization that is free of charge, that will be made possible by each person having a unique user ID/ account (like myspace). The artist will have the power to grant free authorization codes to whom ever the want.

The user will not need to be continuously connected to the Internet to enjoy listening to their music or watching their movies. When iTunes is opened and an Internet connection is not detected, the user will be able to access all previously â€œgreen-lightedâ€ files in their library. All imported files

(CD or otherwise) will be automatically â€œred-lightedâ€ if an Internet connection is not detected. Once the user connects to there online account â€œMyTunes.comâ€, these imported files will be scanned and appropriately accessed. This verification process is vital for ensuring and protecting the rights of the artist and label. If the imported file is not a â€œpublishedâ€ and "copyrighted" work available for purchase in the online marketplace, it will be deemed an original "independent" or â€œin-productionâ€ work and will be "green-lighted" for playback and duplication on all formats. If/and when that recording is "published" and becomes available online, the preauthorized file will be rescanned and "reassessed" once the user signs in to there online account. The Digital Media Protection And Authorization System would scan the users library each time they sign into their online account.

Current programs that can be used as models for the creation of this new Universal Digital Media Copyright Protection System:

-AUDIBLE MAGIC
-iTunes (online purchasing of digital media files)
-iTunes â€œGeniusâ€
-â€œShazamâ€ iPhone App
-Myspace
-Digidesign, Waves and Celemony plug-in authorization processes

2. 'Illegal Downloading Flaw'

SUMMARY

This document is meant to point out the fundamental flaw in how most people view the issue of digital media piracy or â€œillegal downloadingâ€, and more specifically the unauthorized reproduction of copyrighted digital audio files. The following will prove that (1) The act of downloading data from the Internet does not violate copyright law, and (2) Software companies are solely to blame for the unauthorized reproduction of copyrighted digital audio files.

The current plight of the music industry does not lie with the issue of â€œillegal downloadingâ€ or â€œfile sharingâ€, the real issue is the unauthorized reproduction of copyrighted digital audio files by unregulated operating systems and digital media players (Mac OS, Windows OS, iTunes MP, Windows MP, YouTube, QuickTime, Mac OSX "previewâ€). No substantial progress will ever be made in the fight against Internet piracy until this simple truth is realized and implemented into law.

To make this point clear, it is VERY important to fully understand the terms used in copyright law

and subsequent discussions. First, here are a series of important terms and definitions (some familiar, some not) that will be referenced within the body of this document. Warning: This part is slightly boring but also VERY crucial.

INDEX:

Definition of â€˜phonorecordâ€™:

- Material objects embodying (concrete and perceptible) fixations of sounds, such as cassette tapes, CDs, or LPs but excluding motion picture soundtracks.

Definition of â€˜copyâ€™

- Copies are material objects from which a work can be read or visually perceived either directly or with the aid of A machine OR device, such as books, manuscripts, sheet music, film, videotape, or microfilm.

A machine OR device

A Download is:

- The transfer of data from the memory of one computer to that of another.
- The transfer of data from a usually large computer to the memory of another device (as a smaller computer)
- The transfer of electrical signals (which are then converted into magnetic values that represent binary digits) from one hard drive to another local hard drive over the Internet.

Data is:

- Information in a form suitable for storing on a hard disk and processing by a computer.
- Information in numerical (binary) form that can be digitally transmitted or processed.

A Bit is:

- Short for BInary digiT
- the smallest unit of information on a machine. A single bit can hold only one of two values: 0 or 1. More meaningful information is obtained by combining consecutive bits into larger units. For example, a byte is composed of 8 consecutive bits. They may be interpreted also as logical values, either "true" or "false"; or two settings of a flag or switch, either "on" or "off".

A Device is:

- Any piece of equipment made for a particular purpose, especially a mechanical or electrical one. Example: (dishwasher, garbage disposal, computer display, hard disk drive)
- A contrivance or an invention serving a particular purpose, especially a machine used to perform one or more relatively simple tasks.

A Machine is:

- A device consisting of fixed and moving parts that modifies mechanical energy and transmits it in a more useful form.
- A simple device, such as a lever, a pulley, or an inclined plane, that alters the magnitude or direction, or both, of an applied force; a simple machine.
- A system or device for doing work, as an automobile or a jackhammer, together with its power source and auxiliary equipment.
- A system or device, such as a computer, that performs or assists in the performance of a human task:

A Computer is:

- a programmable machine that can execute a programmed list of instructions and respond to new instructions that it is given. Today, however, the term is most often used to refer to the desktop and laptop computers that most people use. When referring to a desktop model, ***the term "computer" technically only refers to the computer itself -- not the monitor, keyboard, and mouse. In turn, a desktop (or laptop) computer cannot technically be classified as A single â€œmachineâ€ OR â€œdeviceâ€, because it is a combination of many machines and devices.***

Definition of â€˜Tangibleâ€™:

- capable of being perceived especially by the sense of touch : palpable
- substantially real : material
- capable of being precisely identified or realized by the mind <her grief was tangible>
- capable of being appraised at an actual or approximate value <tangible assets>. The fixation need not be directly perceptible so long as it may be communicated with the aid of A machine OR device. Copyright is secured automatically when the work is created, and a work is â€œcreatedâ€ when it is fixed in a copy or phonorecord for the first time.

There are several categories of material that are generally not eligible for federal copyright

protection. These include among others:

-Works that have not been fixed in a tangible form of expression (for example, choreographic works that have not been notated or recorded, or improvisational speeches or performances that have not been written or recorded)
-Titles, names, short phrases, and slogans; familiar symbols or designs; mere variations of typographic ornamentation, lettering, or coloring; mere listings of ingredients or contents
-Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration
-Works consisting entirely of information that is common property and containing no original authorship (for example: standard calendars, height and weight charts, tape measures and rulers, and lists or tables taken from public documents or other common sources)

BODY:

The following is meant to point out and explain a very simple oversight that has occurred with regard to copyright law and â€œillegal downloadingâ€. Technically, a download is complete when data has been written to the hard disk. A â€œdownloadâ€ does not include the processing (translation) and reproduction of this binary data, by the operating system, into a perceivable file. True â€œreproductionâ€, in the words of copyright law, does not occur until (1) the operating system converts the raw binary data into a visual â€œfileâ€ and (2) a digital media player (audible reproduction) and/or cd burning software (physical duplication) is implemented.

Copyright protects â€œoriginal works of authorshipâ€ that are fixed in a TANGIBLE FORM of expression.

A hard disk drive containing â€œillegally downloadedâ€ data cannot be classified as a phonorecord, because the hard drive only contains magnetic representations of binary digits and is not a â€œconcrete and perceptible fixation of soundâ€, and thus, cannot be a violation of copyright law.

Furthermore, a hard disk drive containing â€œillegally downloadedâ€ data cannot be classified as a copy either, because the data cannot be communicated with the aid of A (single) machine OR device, and thus, cannot be a violation of copyright law.

Again, the term "computer" technically only refers to the computer itself -- not the monitor, keyboard, and mouse. In turn, a desktop (or laptop) computer cannot technically be classified as a single â€œmachineâ€ or â€œdeviceâ€, because it is a combination of many machines and devices. Also, a computer does not have one dedicated or â€œparticular purposeâ€, they can be used for

many different â€œapplicationsâ€ (pun intended).

There is not A (single) machine OR device capable of directly reading or perceiving magnetic voltages (1â€™s and 0â€™s/â€onâ€ or â€œoffâ€) from a hard drive into precisely identifiable fixations of sound and/or audible reproductions.

Example: iTunes 8 can currently read, write and convert between MP3, AIFF, WAV, MPEG-4, AAC and Apple Lossless. (Not raw and unprocessed magnetic binary data)

Upon completion of an â€œillegal downloadâ€, data has been written to a local hard disk. Has the user violated any copyright law? (the automatic translation of this data into a visual file has not yet occurred)

Are the magnetic values representing 1â€™s and 0â€™s (binary digits) in the form of a digital audio file?

The digital audio file does not exist (is not â€œreproducedâ€) until the magnetic information on the hard disk is translated by an operating system and displayed visually on a computer display, this form is still not a â€œconcrete and perceptible fixation of soundâ€ because it is merely a visually translation/reproduction of the data stored on the hard disk. Once a visual reproduction of the audio file has been created and displayed, the data from the hard drive can then be processed and reproduced into a tangible form with the use of a digital media player (audible reproduction) or disc burning software (physical duplication).

Does the process of downloading magnetic representations of binary digits (familiar symbols or designs) to your local hard disk (not fixed) constitute the creation of a phonorecord and in turn violate copyright law?

Is the process of downloading binary data over the Internet illegal?

If a hard drive cannot legally be classified as a phonorecord or a copy, how can any act of downloading or â€œbufferingâ€ be considered illegal? Since only true phonorecords and copies are protected by copyright law.

Have we been barking up the wrong tree this whole time? Is â€œIllegal Downloadingâ€ or â€œFile-Sharingâ€ even the problem, or are hardware manufacturers and computer software companies solely to blame for the unauthorized reproduction of copyrighted digital audio files? Shouldnâ€™t the spotlight be placed back where it belongs, on the companies that make and distribute the hardware and software thatâ€™s allowing actual copyright infringement to occur?

The current plight of the music industry does not lie with the issue of â€œillegal downloadingâ€ or â€œfile sharingâ€, the real issue is the unauthorized reproduction of copyrighted digital audio files by unregulated operating systems and media players (Mac OS, Windows OS, iTunes MP, Windows MP, YouTube, QuickTime, Mac OSX "previewâ€). No substantial progress will ever be made in the fight against internet piracy until this simple truth is realized and implemented into law.

Since the Betamax precedent was recently not allowed as a defense in the RIAA v. Usenet.com case, it would seem that the impenetrable wall surrounding the hardware manufacturers, and more importantly the computer software companies, has finally been broken down. Shouldnâ€™t we get back to where the RIAA rightly started out with the Diamond Rio Case? Apple, Microsoft and others are getting rich off the illegal reproduction, duplication, and exploitation of all copyrighted digital media (especially music and movies), while the artists and producers responsible for the creation of these works are left high and dry.

3. POINT-OF-SALE=POINT-OF-PLAY

Artists and producers sell their intellectual property and copyrighted content, these products can be looked at in direct correlation to the money they will produce for the copyright holder. So if the distribution of the artist and producers content (money) is not treated with the same respect as the average persons checking account balance we have a serious problem. When Internet banking became popular, did money become free? No, because each person has access codes and login passwords so their money is protected from being transferred and withdrawn without their consent. A similar system of authorization and user IDâ€™s needs to be adopted in the entertainment industries in cooperation with the personal computers that are responsible for granting access to these copyrighted works (money).

Every time a person presses play on an â€œillegally downloadedâ€ music/movie file, they are asking a question. These days, It goes a little something like this.

(User) Hey computer, can I please listen to this song/watch this movie for free?

(Computer) Absolutely, I could care less. Do whatever you want.

This has been the conversation between user and computer for the past decade or so. Notice how the copyright holder is left completely out of the loop.

What this conversation SHOULD sound like is this:

(User) Hey computer, may I please listen to this song/watch this movie for free?

(Computer) Ummm, Hold on let me check with the person who made itâ€¦.hmm, Sorry, he said no. I guess he wants to be compensated for his hard work or something (shrug)

(User) Oh, wellâ€¦what about this song/movie?

(Computer) That one? Lemme check for yaâ€¦ooow, yeah apparently those guys wanna be paid too. They said that it was really hard and expensive to make that record. So, yeahâ€¦Weird huh?

(User) Well, I guess that kinda makes senseâ€¦

(Computer) But if you wanna buy that song I can set you upâ€¦we can take care of that right now, itâ€™ll only take a secondâ€¦.

(User) Ummm, maybe laterâ€¦.ok, well how â€˜dout THIS song?

(Computer) Lemme check for yaâ€¦Oh, that one is good to go. Apparently sheâ€™s an â€œindieâ€ artist thatâ€™s trying to make a name for herself. So, she said she doesnâ€™t mind, sheâ€™s more interested in the exposure she might gain from offering her content for free.

The point of sale needs to be placed at the point of â€œtrueâ€ reproduction, not on the sale of data needed for eventual reproduction on the User/Computerâ€™s terms.

4. VIN = IP

Automobiles are very helpful and very harmful inventions, depending on who is operating them. This is why they must be registered with a central database. The same goes for personal computers. They are very helpful and very harmful inventions, depending on who is operating them. An automobile has many uses, both legal and illegal. A personal computer has many uses, both legal and illegal. The similarities between automobiles and personal computers are extensive, as are the similarities between the Interstate Highway System and the Internet. How do we navigate our way through the â€œinformation superhighwayâ€? We use personal computers as vehicles to take us to many different destinations, and to transport desirable goods (both legal and illegal) back to our homes.

The preliminary groundwork has been laid, and seemingly instantaneous International

transportation between computers is now possible. Now the name of the game must switch to the licensing and registration of the operators and computers that make use of the infrastructure, that way the people who exploit the Internet and engage in illegal activity can be held accountable. Automobile transportation systems are the perfect model for what needs to happen with regard to securing the Internet infrastructure.

-When you purchase a car, the first step is always registration.

-The first automobiles were built in the late 1800â€™s but the DMV was not established until 1917.